

The opinion in support of the decision being entered today is *not* binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* ROBERT E. VAN CLEVE, STEVEN R. DUPREE,  
CURTIS R. JONES, and DARREN J. CEPULIS

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Appeal 2007-1604  
Application 09/966,064  
Technology Center 2100

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Decided: July 27, 2007

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Before JAMES D. THOMAS, LEE E. BARRETT, and JOHN A. JEFFERY,  
*Administrative Patent Judges.*

JEFFERY, *Administrative Patent Judge.*

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134 from the Examiner's rejection of claims 10, 16, and 17. Claims 2-9, 13-15, and 18-22 have been indicated as containing allowable subject matter, and claim 1 has been cancelled (Answer 2). We have jurisdiction under 35 U.S.C. § 6(b). We affirm.

## STATEMENT OF THE CASE

Appellants invented a system and method for storing operating system drivers needed for installation of the operating system. Specifically, the drivers for multiple different operating systems are stored in unreserved ROM space in the computer system along with the basic input/output system (BIOS) routines. Accordingly, the requisite drivers are made available during installation of the operating system via the system ROM itself without requiring the user to search elsewhere for the necessary drivers.<sup>1</sup>

Claim 10 is illustrative:

10. A method comprising:

storing in a ROM device of a computer system a basic input output system (BIOS) program; and

storing in the ROM hardware drivers for a plurality of different operating systems.

The Examiner relies on the following prior art references to show unpatentability:

Alcorn	US 6,106,396	Aug. 22, 2000
Nakagiri	US 6,606,669 B1	Aug. 12, 2003 (filed Dec. 5, 1995)

Appellants' admitted prior art on Page 2 of the Specification ("APA").

1. Claim 10 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Alcorn in view of Nakagiri.

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<sup>1</sup> See generally Specification ¶¶ 0005-0009.

2. Claims 16 and 17 stand rejected under 35 U.S.C. § 103(a) as unpatentable over APA in view of Alcorn and further in view of Nakagiri.

Rather than repeat the arguments of Appellants or the Examiner, we refer to the Briefs and the Answer for their respective details.<sup>2</sup> In this decision, we have considered only those arguments actually made by Appellants. Arguments which Appellants could have made but did not make in the Briefs have not been considered and are deemed to be waived. *See* 37 C.F.R. § 41.37(c)(1)(vii).

## OPINION

### *Claim 10*

We first consider the Examiner's rejection of claim 10 under 35 U.S.C. § 103(a) as unpatentable over Alcorn in view of Nakagiri. In rejecting claims under 35 U.S.C. § 103, it is incumbent upon the Examiner to establish a factual basis to support the legal conclusion of obviousness. *See In re Fine*, 837 F.2d 1071, 1073, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). In so doing, the Examiner must make the factual determinations set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 17, 148 USPQ 459, 467 (1966).

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<sup>2</sup> An Appeal Brief was initially filed on Oct. 7, 2005, and an Examiner's Answer mailed on Dec. 30, 2005. A second Appeal Brief was filed on July 5, 2006 in response to an order from the Board to the Examiner to correct various informalities. A second Examiner's Answer was mailed on Nov. 22, 2006 and a Reply Brief filed Dec. 20, 2006. Throughout this opinion, we refer to the (1) July 2006 Brief, (2) Nov. 2006 Answer, and (3) Dec. 2006 Reply Brief.

Discussing the question of obviousness of a patent that claims a combination of known elements, *KSR Int'l v. Teleflex, Inc.*, 127 S. Ct. 1727, 82 USPQ2d 1395 (2007) explains:

When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill. *Sakraida [v. AG Pro, Inc.]*, 425 U.S. 273, 189 USPQ 449 (1976)] and *Anderson's-Black Rock[, Inc. v. Pavement Salvage Co.]*, 396 U.S. 57, 163 USPQ 673 (1969)] are illustrative—a court must ask whether the improvement is more than the predictable use of prior art elements according to their established functions.

*KSR*, 127 S. Ct. at 1740, 82 USPQ2d at 1396. If the claimed subject matter cannot be fairly characterized as involving the simple substitution of one known element for another or the mere application of a known technique to a piece of prior art ready for the improvement, a holding of obviousness can be based on a showing that “there was an apparent reason to combine the known elements in the fashion claimed.” *Id.*, 127 S. Ct. at 1740-41, 82 USPQ2d at 1396. Such a showing requires “some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. . . . [H]owever, the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” *Id.*, 127 S. Ct. at 1741, 82 USPQ2d

at 1396 (quoting *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006)).

If the Examiner's burden is met, the burden then shifts to the Appellants to overcome the prima facie case with argument and/or evidence. Obviousness is then determined on the basis of the evidence as a whole and the relative persuasiveness of the arguments. *See In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992).

The Examiner's rejection essentially finds that Alcorn teaches storing a BIOS program and hardware drivers in a ROM device of a computer. Although the Examiner notes that Alcorn does not disclose that these stored drivers could be used for multiple different operating systems, the Examiner cites Nakagiri for teaching that hardware drivers stored in ROM could be used for multiple different operating systems. In view of Nakagiri, the Examiner concludes that it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Alcorn to store in ROM hardware drivers usable in multiple different operating systems to reduce operating system installation time (Answer 3-4).

Appellants present two main arguments. First, Appellants contend that combining Nakagiri with Alcorn in the manner proposed by the Examiner would render Alcorn unsatisfactory for its intended purpose. According to Appellants, coupling Alcorn's casino game to an external peripheral device that transfers drivers to the game "would seem to be a security risk" since such a transfer "could bypass the security features of the casino game" (Br. 15).

The Examiner responds that by modifying Alcorn to store hardware drivers used for multiple operating systems in the ROM 14 as suggested by

Nakagiri, there would be no need to couple the external peripheral device to transfer the drivers in Alcorn. In such a case, the drivers would already be stored in Alcorn's system (Answer 6-7).

Second, Appellants argue that a ROM device with a particular BIOS is generally destined for a particular computer. Therefore, Appellants contend, the skilled artisan would not think to put BIOS programs for a particular machine on the same ROM device with hardware drivers for multiple different operating systems (Br. 16). The Examiner argues that storing hardware drivers for multiple different operating systems in the system ROM would reduce operating system installation time. According to the Examiner, the user may only need to update the BIOS, but not need to spend additional time to install additional drivers for different operating systems (Answer 7).

We will sustain the Examiner's rejection of claim 10. Alcorn discloses a microprocessor-based electronic casino gaming system with, among other things, a system boot ROM 14 that provides the initialization software required when power is initially applied (Alcorn, col. 6, ll. 24-29; Fig. 1). As shown in Figure 2, ROM 14 comprises two separate ROM elements: (1) ROM 29 which contains, among other things, the system initialization or boot code, and (2) ROM 30 which includes the operating system program and system drivers (Alcorn, col. 7, ll. 18-32; Fig. 2). In another embodiment, Alcorn discloses that ROM 14 comprises (1) ROM 50 (containing the BIOS software), and (2) ROM 52 (containing, among other things, the boot strap code, operating system code, and operating system drivers) (Alcorn, col. 9, ll. 38-55; Fig. 6).

Although Alcorn is silent regarding providing drivers for multiple different operating systems, Nakagiri teaches storing printer drivers for multiple different operating systems in the same ROM (Nakagiri, col. 5, ll. 15-26; Fig. 2).

The issue before us, then, is whether the skilled artisan would have stored drivers for multiple different operating systems in Alcorn's ROM in view of the teachings of Nakagiri. We answer this question in the affirmative.

Based on the record before us, we find that the skilled artisan would have had ample reason to store drivers for multiple different operating systems in Alcorn's ROM essentially for the reasons stated by the Examiner. Appellants' argument that coupling Alcorn's casino game to an external peripheral device that transfers drivers to the system such as that suggested by Nakagiri "would *seem to be* a security risk" since such a transfer "*could* bypass the security features of the casino game"<sup>3</sup> is merely speculative. Appellants have offered absolutely no evidence on this record to support this assertion. In any event, this argument is simply not germane to the reason why the Examiner cited the Nakagiri reference.

The Examiner relied on Nakagiri merely to show that it is well known to store drivers for multiple operating systems in a single ROM device -- not for transferring drivers to Alcorn's system via an external device.<sup>4</sup> Based on Nakagiri's fundamental teaching, we find the reference strongly suggests storing drivers for multiple operating systems in the ROM device of Alcorn -- a ROM device which likewise stores drivers.

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<sup>3</sup> See Br. 15 (emphasis added).

<sup>4</sup> See Answer 4, 6, and 7.

Although Alcorn's system utilizes a single operating system, we see no reason why the system would not at least be capable of accommodating multiple operating systems. In fact, installing multiple operating systems in the same host computer and activating a desired operating system is well known.<sup>5</sup> In view of this conventional technique, we see no reason why the skilled artisan would not provide such a capability in Alcorn's system. At a minimum, such a capability would provide the flexibility to select a desired operating system, thus enabling operation that can employ the distinctive features of the respective operating systems.

In any event, we agree with the Examiner that storing hardware drivers for multiple operating systems in the ROM 14 of Alcorn would at least reduce the need to transfer additional drivers to Alcorn's system via an external device. By providing access to the drivers from the same ROM device, the drivers for the multiple operating systems would already be stored in Alcorn's system (i.e., in the ROM). Such an internal capability would hardly compromise security of Alcorn's system as Appellants seem to suggest.

For at least these reasons, the Examiner's rejection of claim 10 is sustained.

### *Claims 16 and 17*

We next consider the Examiner's rejection of claims 16 and 17 under 35 U.S.C. § 103(a) as unpatentable over APA in view of Alcorn and further

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<sup>5</sup> See Nakagiri, col. 1, ll. 45-49 ("A number of OSs [operating systems] for controlling a host computer also exist nowadays. The same host computer is controlled by different OSs or a plurality of OSs are installed in the same host computer and one of the OSs is activated by switching them.").



in view of Nakagiri. Regarding representative claim 16,<sup>6</sup> the Examiner's rejection essentially finds that APA teaches supplying an operating system driver during installation of an operating system by copying the driver from a storage device.

The Examiner, however, notes that the claims differ from APA in calling for storing the driver with the BIOS programs in a ROM. The Examiner then cites Alcorn for such a feature and concludes that it would have been obvious to one of ordinary skill in the art at the time of the invention to store the BIOS in one portion of the known ROM and operating system drivers in another portion of the ROM to increase flexibility and convenience in storing and installing the drivers (Answer 5-6).

Although the Examiner notes that prior art does not disclose that these stored drivers could be used for multiple different operating systems, the Examiner cites Nakagiri for teaching that hardware drivers stored in ROM could be used for multiple different operating systems. In view of Nakagiri, the Examiner concludes that it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the prior art teachings to store in ROM hardware drivers usable in multiple different operating systems to reduce operating system installation time (Answer 6).

Appellants argue the prior art does not teach or suggest supplying an operating system driver *during installation* of the operating system (Reply Br. 2; emphasis added). Appellants contend that Alcorn provides operating system drivers during loading of a previously installed operating system, and

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<sup>6</sup> Appellants indicate that claim 16 is representative of the group comprising claims 16 and 17 (Reply Br. 1).

the host computer's operating system in Nakagiri is already executing before the driver is provided (*Id.*).

We will sustain the Examiner's rejection of representative claim 16. Appellants' arguments which are directed primarily to Alcorn and Nakagiri are simply not commensurate with the Examiner's position, namely that APA teaches supplying an operating system driver during installation of an operating system by copying the driver from a storage device. Appellants have simply not rebutted the Examiner's position in this regard. Moreover, we find the Examiner's reasoning with respect to Alcorn and Nakagiri persuasive for the reasons previously discussed.

Furthermore, supplying operating system drivers during installation of an operating system by copying the drivers from ROM is well known in the art as evidenced not only by Appellants' own disclosure,<sup>7</sup> but also by Alcorn. Alcorn notes that when power is initially applied to the system on start-up, the CPU 12 executes code from BIOS ROM 50 and then jumps to the boot strap code in ROM 252 [sic – 52] which copies, among other things, the operating system and its associated drivers into RAM (Alcorn, col. 9, ll. 48-55; Fig. 6). In short, the prior art amply teaches that copying operating system drivers during installation of an operating system is well known.

For at least these reasons, we will sustain the Examiner's rejection of representative claim 16. Likewise, we sustain the rejection of claim 17 which falls with claim 16.

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<sup>7</sup> See, e.g., Specification, at ¶ 0004 (“*During the process of installing these operating systems/user interfaces, it is required that proper drivers are installed for the hardware resident in the computer system.*”) (emphasis added).

DECISION

We have sustained the Examiner's rejections with respect to all claims on appeal. Therefore, the Examiner's decision rejecting claims 10, 16, and 17 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

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